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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/815,792

04/02/2004

Jae-Bon Koo

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9923

58027

7590

09/12/2006

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VIENNA, VA 22182

EXAMINER

WON, BUMSUK

ART UNIT

PAPER NUMBER

2879

DATE MAILED: 09/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/815,792	KOO ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Bumsuk Won	2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 20 June 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-10 is/are pending in the application.
- 4a) Of the above claim(s) 2 and 11-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Response to Amendment***

The amendment filed on 6/20/2006 has been entered.

The amendment of claim 8 overcomes rejection under 35 USC § 112.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1 and 3-10 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Sarma (5,204,659).

**Regarding claim 1**, Sarma discloses a flat display (figs 4 and 7) comprising: pixels including RGB unit pixels (fig 4, RGB, fig 7, 73-76), each unit pixels include a transistor with source/drain regions (733, 743, 753, 763 for source, 734, 744, 754, 764 for drain), wherein transistors of RGB unit pixels have drain regions different geometric structures (734, 744, 754, 764 all have different structures).

**Regarding claim 3**, Sarma discloses the drains have different width (w1, w2, w3, w4, vertical dimension looking at the figure) but same length (horizontal dimension looking at the figure).

**Regarding claim 5**, Sarma discloses the unit pixels include LCD driven by the transistor (figs 2-12). The claim limitation from 2<sup>nd</sup> line, “a drain region of a transistor to drive the light emitting device ... lower luminous efficiency” is drawn to a functional claim limitation which is incidental to the claimed apparatus. It is well established that a claimed apparatus cannot be distinguished over the prior art by a functional claim limitation. Consequently, absent a showing of an unobvious difference between the claimed product and the prior art, the subject functional claim limitation is not afforded patentable weight (MPEP 2114).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sarma (5,204,659) in view of Park (7,002,302).

**Regarding claim 4**, Sarma discloses all of the claimed limitations except for the drain regions of the transistors are zigzag shapes.

Park discloses a flat panel display (column 1, lines 15-19) having drain regions (figure 8, 825 and 827) of transistors (figure 8) being zigzag shapes (column 8, lines 29-31), for the purpose of increasing resistance of drain regions.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the drain regions of transistors being zigzag shapes disclosed by Park in the flat panel display disclosed by Sarma, for the purpose of increasing resistance of drain regions.

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Claim 6-8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sarma (5,204,659) in view of Yamada (JP 2001-109399).

**Regarding claim 6**, Sarma discloses all the claimed limitations except for the drain regions including offset regions having different geometric structures from one another, respectively.

Yamada discloses the drain regions (43c, 43d) of the transistors include offset regions (43c) having different geometric structures from one another, respectively (paragraphs 37-41), for the purpose of differentiate luminous efficiency of each unit pixel.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the transistors include offset regions having different geometric structures from one another, respectively disclosed by Yamada in the display disclosed by Sarma, for the purpose of differentiate luminous efficiency of each unit pixel.

**Regarding claim 7**, Yamada discloses each unit pixel includes an organic EL device (60) driven by the transistor (paragraph 33), and a drain offset region (43c) of a transistor to drive the organic EL device having the highest luminous efficiency of the organic EL device among the transistors in the unit pixels has a narrower width compared to widths of drain offset regions of transistors to drive organic EL device having a relatively lower luminous efficiency (paragraphs 37-41). The reason for combining is same as claim 6.

**Regarding claim 8**, Yamada discloses the drain offset regions (43c) of the transistors of the R, G and B unit pixels are of a construction having a same length and a different width from one another (paragraphs 40-41). The reason for combining is same as claim 6.

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**Regarding claim 10**, Yamada discloses each unit pixel includes an organic EL device (60) driven by the transistor (paragraph 33), and channel layers (43c) of the transistors controlling currents supplied to the organic EL device of the unit pixels are of same size (paragraphs 37-41, each R, G and B will have its own size which are same size within each R, G and B). The reason for combining is same as claim 6.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sarma (5,204,659) in view of Yamada (JP 2001-109399), in further view of Park (7,002,302).

**Regarding claim 9**, Sarma in view of Yamada discloses all of the claimed limitations except for the drain regions of the transistors are zigzag shapes.

Park discloses a flat panel display (column 1, lines 15-19) having drain regions (figure 8, 825 and 827) of transistors (figure 8) being zigzag shapes (column 8, lines 29-31), for the purpose of increasing resistance of drain regions.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the drain regions of transistors being zigzag shapes disclosed by Park in the flat panel display disclosed by Sarma in view of Yamada, for the purpose of increasing resistance of drain regions.


#### ***Contact information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bumsuk Won whose telephone number is 571-272-2713. The examiner can normally be reached on Monday through Friday, 8:00 am to 5:00 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar Patel can be reached on 571-272-2457. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Bumsuk Won  
Patent Examiner



**JOSEPH WILLIAMS**  
**PRIMARY EXAMINER**